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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/941,474	08/28/2001	Kevin Zhang	NFCS-01-027	8102

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EXAMINER	
WOOD, KEVIN S	

ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/941,474	ZHANG ET AL.	
	Examiner	Art Unit	
	Kevin S Wood	2874	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8-16 and 21-25* is/are pending in the application.

4a) Of the above claim(s) 17-20 and 26 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8-16 and 21-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Brian Healy
Primary Examiner

DETAILED ACTION

Response to Amendment

1. This Action is responsive to the Applicant's After-Final 5 April 2004. Claim 24 has been amended. Claims 7, 17-20, and 26 have been canceled. Claims 1-6, 8-16 and 21-25 are pending in the Application.

2. The finality of the previous office action is withdrawn. Based on new art that has been found to reject claims that were said to be allowable in the previous office action, the finality of that action is now withdrawn.

Response to Arguments

3. Applicant's arguments with respect to claims 1-6, 8-16 and 21-25 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 6, 8-13, 16 and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,400,867 to Liu.

Referring to claims 6 and 8-11, Liu discloses all the limitations of the claimed invention. Liu discloses an apparatus for tuning an optical element, the apparatus including: a module (150) having a center of rotation and an end having a concave surface (155); an optical element (140) having a center of rotation and being affixed to the module such that the center of rotation of the optical element is offset from the center of rotation of the module, wherein the optical element has an end having a convex surface (145) that fits with the concave surface of the module such that the optical element can be moved with two degrees of freedom while maintaining contact between the convex surface of the optical element and the concave surface of the module; and a mechanism for redirecting light, the mechanism including a pigtail having wedge (115) formed in a transmitting end, wherein the redirecting mechanism redirects incident light to a location on the optical element. See Fig. 1 and Fig. 2, along with their respective portions of the specification

Referring to claim 12, Liu discloses all the limitations of the claimed invention. Liu discloses a method of tuning an optical element, the method including: mating a first end of a collimator (140) with a second end of a filter module (150), the filter module including a filter (135) having a plurality of responses, wherein the first end and the second end form a ball end joint such that the filter module can move with two degrees of freedom in the ball end joint and maintain contact with the collimator; and aligning the filter module by moving the filter module within the ball end joint in at least one of the

two degrees of freedom to select a desired response (maximum power) from the plurality of responses. See Fig. 1 and Fig. 2, along with their respective portions of the specification

Referring to claim 13, Liu discloses all the limitations of the claimed invention. Liu discloses aligning the filter module comprises redirecting light along a path offset from an axis formed by the center of the collimator. It is clear from the invention of Liu that the light reflected from the filter (135) would be offset from the center of the collimator lens (125) in order to align with the output optical fiber (120).

Referring to claim 16, Liu discloses all the limitations of the claimed invention. Liu discloses an apparatus for tuning an optical element including: module means (140) for rotating about a center of rotation; optical means (150) including a filter (135), supported by the module means, for responding to an incident light and producing a plurality of responses, the optical means having a predetermined response at a position offset from the center of rotation, wherein an end of the module means (145) forms a ball end joint with an end of the optical means (155) such that the filter can be moved with respect to the center of rotation while maintaining contact between the optical means and the module means; means (110) for applying incident light to the optical means, the incident light traveling along a path offset from the center of rotation; and means for rotating the module about the center of rotation and for sliding the module means in the ball end joint until a desired response (maximum power) from the optical means to the incident light is achieved. See Fig. 1 and Fig. 2, along with their respective portions of the specification.

Referring to claims 21-23, Liu discloses all the limitations of the claimed invention. Liu discloses a method for tuning an optical element including: applying an incident light beam from a source (110) to a first location on an optical filter (135) having a specified response (not maximum power) to the light beam at the first location, the optical filter having an end to form a ball end joint with the source; and positioning the optical filter by moving the optical filter using the ball end joint so that the light beam is incident at a second location on the optical filter having a desired response (maximum power) other than the specified response.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-5, 14, 15, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,400,867 to Liu.

Referring to claims 1-5, Liu discloses an apparatus form tuning an optical element, the apparatus includes: a filter module (150) that contains a thin-film filter (135) having a specified response (not maximum power) at a first location, wherein a first end of the filter module has a concave surface (155) configured to fit with a convex surface (145) of a second optical module (140) such that a plane formed by a face of the thin-film filter can be aligned with respect to a first axis passing through the thin-film filter and such that the thin-film filter can be rotated about the first axis; and a mechanism (115) for redirecting incident light to a second location on the filter module so as to achieve a desired response (maximum power) other than the specified response. See Fig. 1 and Fig. 2, along with their respective portions of the specification. Liu does not specifically disclose that the filter module has a convex surface and that the second module has a concave surface. Instead, Liu discloses the filter module having a concave surface and the second module has a convex surface, for the purpose of providing a seamless fit together to have a multiple dimensional freedom of angular movement for adjusting a relative orientation of the first module to the second holding second module. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the filter module with a convex surface and the second module with a concave surface, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Einstein, 8 USPQ 167.

Referring to claims 14 and 15, Liu discloses a method for tuning an optical element including: providing an optical element (125) having a center of rotation; providing a module (150) including a filter (135), the filter having a plurality of responses and a center; affixing an end of the optical element to an end of the module such that the center of the filter is offset from the center of rotation of the optical element, wherein the end of the optical element has a convex surface (145) that fits with a concave surface (155) of the end of the module to form a ball end joint between the optical element and the module; applying incident light to the optical element, the incident light traveling along a path offset from the center of rotation; and selecting a predetermined response by rotating the module. See Fig. 1 and Fig. 2, along with their respective portions of the specification. Liu does not specifically disclose that the filter module has a convex surface and that the second module has a concave surface. Instead, Liu discloses the filter module having a concave surface and the second module has a convex surface, for the purpose of providing a seamless fit together to have a multiple dimensional freedom of angular movement for adjusting a relative orientation of the first module to the second holding second module. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the filter module with a convex surface and the second module with a concave surface, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Einstein, 8 USPQ 167.

Referring to claims 24 and 25, Liu discloses an optical element that can be tuned to a particular response, the optical element including: a filter (135) having a plurality of

responses to an incident light beam, the filter having a face; a housing (150) contains the filter, wherein the filter is positioned within the housing such that a center of the filter does not coincides with the center of rotation of the housing, the housing having a concave shaped end that forms a ball end joint with a light source having a convex shaped end such that the filter can be rotated about a center of rotation of the light source and such that the face of the filter can be tilted with respect to the light source. See Fig. 1 and Fig. 2, along with their respective portions of the specification. Liu does not specifically disclose that the filter module has a convex surface and that the second module has a concave surface. Instead, Liu discloses the filter module having a concave surface and the second module has a convex surface, for the purpose of providing a seamless fit together to have a multiple dimensional freedom of angular movement for adjusting a relative orientation of the first module to the second holding second module. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the filter module with a convex surface and the second module with a concave surface, since it has been held that a mere reversal of the essential working parts of a device involves only routine skill in the art. In re Einstein, 8 USPQ 167.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KSW

Brian Healy
Primary Examiner